

(19)



Generated Document.

(11) Publication number: 09098779 A

## PATENT ABSTRACTS OF JAPAN

(21) Application number: 08185043

(51) Intl. Cl.: C12N 9/10 C12P 19/18

(22) Application date: 15.07.96

(30) Priority: 03.08.95 JP 07198597

(43) Date of application  
publication: 15.04.97(84) Designated  
contracting states:(71) Applicant: FUJI SEITO KK  
SHIZUOKA PREFECTURE(72) Inventor: OGUCHI MASAHISA  
KUBOTA SATOO  
WADA TADASHI  
SANO TAKAFUMI  
OISHI KAZUO  
YAMAGISHI MASAAKI  
OTA TOSHIYA

(74) Representative:

(54) TREHALOSE  
SYNTHETASE, ITS  
PRODUCTION AND  
PRODUCTION OF  
TREHALOSE USING THE  
ENZYME

(57) Abstract:

PROBLEM TO BE SOLVED: To  
obtain a new trehalose  
synthetase acting on maltose to

produce trehalose used in pharmaceuticals, foods, cosmetics, etc., by culturing a microorganism belonging to the genus *Pseudomonas* and having trehalose synthetase producing capacity in a culture medium.

**SOLUTION:** The objective new trehalose synthetase is produced by culturing a microorganism belonging to the genus *Pseudomonas* and capable of producing a trehalose synthetase [e.g. *Pseudomonas* sp.F-1 (FERM P-14747)] in a medium and collecting the product from the cultured material. The trehalose synthetase acts on maltose to form trehalose, acts on trehalose to form maltose, has optimum pH of 6.0-10.0 at 37°C, optimum temperature of 45°C at pH7.0, pH stability of 5.0-11.0 at 37°C, heat stability of 40-50°C at pH7.0, isoelectric point of 5.0-6.0 and molecular weight of 40,000-80,000 (SDS.PAGE), is inactivated with Co<sup>++</sup>, Zn<sup>++</sup>, Ni<sup>++</sup>, Hg<sup>++</sup>, Cu<sup>++</sup> and Cd<sup>++</sup> and has an amino-terminal amino acid sequence expressed by the formula.